Weekly Report

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Projects

Application Documents for LaTrobe

The application documents have been submitted this week.

Deep Learning on Trajectory Data

- **LSTM Model** In ITSC 2017 paper [1], they adopted LSTM model for flow prediction. As LSTM is new to me, I viewed the tutorials on the Tensorflow website about what LSTM is and how to build LSTM layers in Tensorflow and Keras.
- **Survey of Predictive Visual Analysis in Mobility Data** This week I did a brief survey on predictive analysis in mobility data, mainly from [2] and Fangzhou's survey [3]. However there are few works on this topic.
- **Deep Learning Environment Deployment** Two undergraduate students has deployed Tensorflow and Keras into two new workstations in our lab.

PhD Thesis

- The transfer learning work is migrating to the template (About 50%).

Table 1: Plan for the Next Week

Target Date	**Project**	**Progress**	**Problems**
09.24	DeepVis paper review	The response letter is almost finished.	Reviewer 2's questions are too difficult to find ways to answer. Still figuring out.
10.20	PhD Thesis	Transfer learning paper has been migrated for 50%.	Framework. It seems that the MobilityViewer is somewhat difficult to organize.
12.30	Deep learning and trajectories		

References

[1] Y. Liu, Y. Wang, X. Yang, and L. Zhang, "Short-term Travel Time Prediction by Deep Learning : A Comparison of Different LSTM-DNN Models,"

[2] Y. Lu, R. Garcia, B. Hansen, M. Gleicher, and R. Maciejewski, "The State-of-the-Art in Predictive Visual Analytics," *Computer Graphics Forum*, vol. 36, no. 3, pp. 539–562, 2017.

[3] W. Chen, F. Guo, and F.-y. Wang, "A Survey of Traffic Data Visualization," *IEEE Transactions on Intelligent Transportation Systems*, vol. 16, no. 6, pp. 2970–2984, 2015.